DETAILED ACTION

1. The amendment filed February 4, 2011 was initially thought to be allowable, however, upon further consideration, indication of allowable subject matter is withdrawn.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claim 4 recites the limitation "the glass sheet heating more rapidly" in line 2. There is insufficient antecedent basis for this limitation in the claim.

5. Claim 4 recites the limitation "the glass sheet heating more slowly" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. Claims 1-4 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over YOSHIZAWA et al. (EP 0398759) in view of WOODWARD et al. (US 5,755,845).

YOSHIZAWA teaches a method of heating glass sheets for laminated glass. YOSHIZAWA teaches that the glass sheets may be asymmetrical (p. 2, lines 13-17). YOSHIZAWA teaches that the glass sheets are preheated and press-bent (p. 2, lines 19) and finally cooled in a lehr (p. 3, line 46). YOSHIZAWA discloses that the temperature of the glass sheets is equal after the preheating (p. 2, lines 30-33). YOSHIZAWA is silent to keeping the glass sheets at the same temperature immediately after pressing.

WOODWARD teaches a method and apparatus for bending glass sheets. WOODWARD teaches that the glass sheets are conveyed through a furnace to obtain a suitable bending temperature and then conveyed to a press bending station having heated press surfaces (col. 2 lines 60-67). WOODWARD teaches that the pressing surfaces are maintained at a desired temperature (col. 3 lines 10-11). It would have been obvious to one of ordinary skill in the art to substitute the press bending station of WOODWARD for the press bending station of YOSHIZAWA (p. 2 lines 30-33) because WOODWARD teaches that heated press surfaces would avoid the problem of excessive cooling during bending and would avoid inadequate tempers (col. 1 lines 50-55). Additionally, one of ordinary skill in the art would recognize that maintaining the upper and lower press surfaces of WOODWARD at desired temperature such that there is no heat loss in the glass sheets would ensure that the temperatures of the glass sheets of YOSHIZAWA that enter at a controlled temperature would remain at that same temperature after bending.

Regarding claim 2, WOODWARD teaches that the temperature of the glass sheets after pressing is essential in performing adequate tempering or quenching (col. 1 lines 61-65). It would have been obvious to one of ordinary skill in the art to detect and monitor this temperature because of WOODWARD's emphasis on its importance.

Regarding claim 3, YOSHIZAWA discloses that the temperature of the glass sheets at the end of the preheating is used as the control parameter (p. 4, lines 10-15).

Regarding claim 4, WOODWARD teaches that the glass sheets having different thicknesses operate under different thermal conditions (col. 1 lines 66 - col. 2 line 8) therefore, it would have been obvious to one of ordinary skill in the art that some glass sheets would require a longer period of time for pressing than other. WOODWARD also teaches that sufficient time for pressing is important for achieving the desired curvature while avoiding optical distortion.

Regarding claim 15, see the discussion of claims 1 and 2 above.

Regarding claim 16, see the discussion of claim 2 above.

Regarding claim 17, see the discussion of claim 2.

8. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over YOSHIZAWA et al. (EP 0398759) in view of WOODWARD et al. (US 5,755,845) as applied to claims 1-4 and 15-17 above, and further in view of HERRINGTON et al. (US 4,952,227).

YOSHIZAWA as modified by WOODWARD teaches a method of heating glass sheets for laminated glass with heated press surfaces during the pressing step. Modified YOSHIZAWA is silent as to the use of an intermediate cooling air.

HERRINGTON teaches a method of bending glass sheets wherein the apparatus is controlled to adjust operating parameters based on properties of the glass sheet running through similar to the process of modified YOSHIZAWA. HERRINGTON teaches that it is necessary to provide cooling air to the preheating area to prevent the glass from over heating (col. 7, lines 3-18). It would have been obvious to one of ordinary skill to provide cooling air to the preheater of modified YOSHIZAWA because modified YOSHIZAWA discloses that it is necessary to control the temperature of the glass so that it does not overheat to the extent that deformation control would be lost (col. 5, lines 46-51).

9. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over YOSHIZAWA et al. (EP 0398759) in view of WOODWARD et al. (US 5,755,845) and HERRINGTON et al. (US 4,952,227) as applied to claims 1-6, and 15-17 above, and further in view of BAMFORD et al. (US 4,043,782).

YOSHIZAWA as modified by WOODWARD and HERRINGTON teaches a method of heating and pressing glass sheets for laminated glass wherein air cooling is used as an intermediate cooling to avoid overheating of the glass. Modified YOSHIZAWA is silent as to the blowing pressure of the air. BAMFORD teaches a method of bending thin glass sheets for automobile windows. BAMFORD discloses that the glass undergoes tempering with air

blowing under low pressure (col. 7, lines 35-40). BAMFORD discloses that the glass undergoes a first tempering at high air pressure and a second tempering at a lower air pressure of about 1 to 3 psi (col. 9, lines 1-4) or about 69 to 206 mbar. It would have been obvious to one of ordinary skill in the art to set the air blowers of modified YOSHIZAWA to a blowing pressure below this range because it would avoid tempering the glass too early.

Response to Arguments

10. Applicant's arguments, see pages 7-9, filed February 4, 2011, with respect to the rejection(s) of claim(s) 1 and 15 under KELLAR have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of WOODWARD et al. (US 5,755,845) which teaches heating press surfaces to avoid heat loss during a pressing bending.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CYNTHIA SZEWCZYK whose telephone number is (571)270-5130. The examiner can normally be reached on Monday through Friday 9 am to 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Daniels can be reached on (571) 272-2450. The

fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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CS

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